

STANDARD
NO. TS-2

REVISION DATE
7-13-01

*.DGN FILE NAME
TS-2

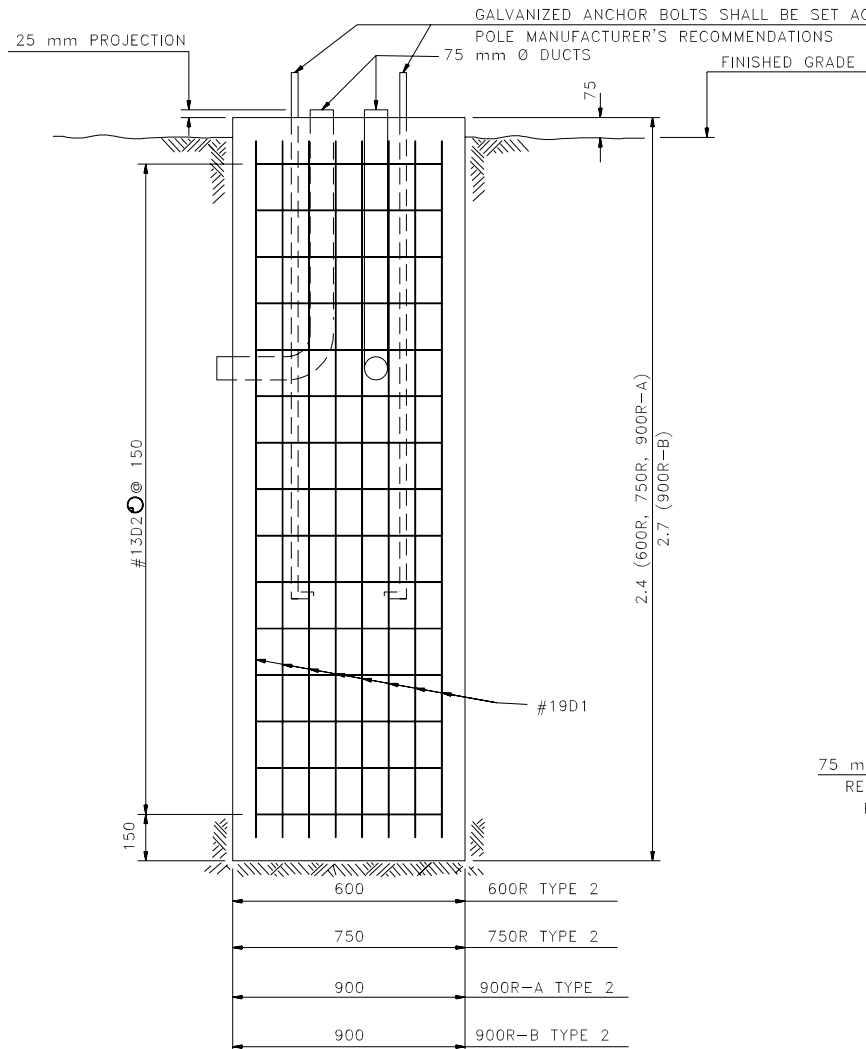
METRIC
STANDARD PLANS

STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION, CONCORD, N.H.



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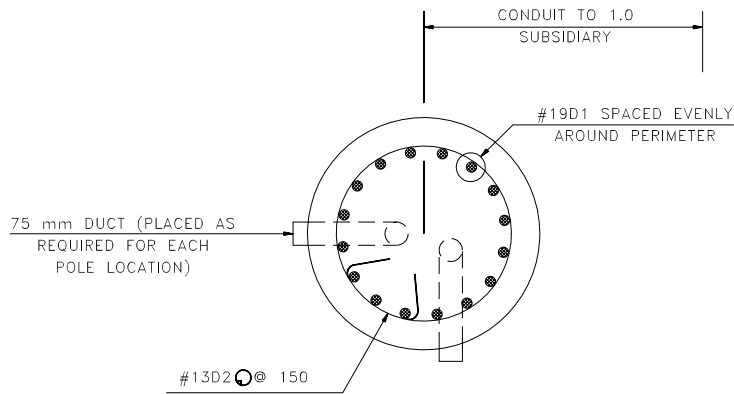
TRAFFIC SIGNAL MAST ARM FOUNDATION - TYPE 2 - 600R, 750R, 900R-A, 900R-B



ELEVATION

TYPICAL QUANTITIES PER BASE						
ITEM NUMBER	ITEM	UNIT	QUANTITY FOR FOOTING SIZE			
			600R	750R	900R-A	900R-B
▲ 508*	STRUCTURAL FILL	m ³	19	20	22	25
520.21*	CONCRETE CLASS B, FOOTINGS	m ³	0.8	1.1	1.6	1.8
544*	REINFORCING STEEL	kg	89	115	142	161

* ITEM NUMBERS ARE FOR SPECIFICATION REFERENCE ONLY.
NO SEPARATE PAYMENT WILL BE MADE FOR THESE ITEMS, EXCEPT AS PROVIDED IN NOTE NO. 1 OF THE GENERAL NOTES, AND NOTE NO. 4 FOR THE EXCAVATED HOLES.

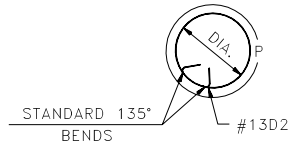


PLAN

STANDARD ROUND TRAFFIC SIGNAL FOUNDATION						
DETERMINATION OF REQUIRED FOOTING SIZE						
FOOTING SIZE	CASE 1 MAX. h=12.2 MAX. h1=6.7			CASE 2 MAX. h1=6.7		
	SHAPE	MAX. LENGTH OF ONE MAST ARM WITH ONE LUMINAIRE ON THE SAME POLE (L)	MAX. NUMBER OF SIGNALS FOR CASE 1	SHAPE	MAX. LENGTH OF ONE MAST ARM WITH NO LUMINAIRE (L)	MAX. NUMBER OF SIGNALS FOR CASE 2
600R TYPE 2 (600 x 2.4)		5.0 m	2		8.0 m	3
750R TYPE 2 (750 x 2.4)		8.0 m	3		11.0 m	4
900R-A TYPE 2 (900 x 2.4)		11.0 m	3		13.0 m	4
900R-B TYPE 2 (900 x 2.7)		15.0 m	4		15.0 m	4
NOTE: COMBINATIONS OTHER THAN THOSE SHOWN IN THE ABOVE CHART SHALL NOT BE USED WITHOUT DESIGN APPROVAL.						

REINFORCING SCHEDULE

MARK	SIZE	NO.	UNBENT LENGTH	TYPE
D1	#19	"X"	"Z"	—
D2	#13	"W"	"Y"	○



FOUNDATION SIZE	"W"	"X"	"Y"	"Z"
600R	15	12	1825	2250
750R	15	16	2300	2250
900R-A	15	20	2775	2250
900R-B	17	20	2775	2550

FOUNDATION SIZE	DIMENSION	
	D	P
600R	440	1382
750R	590	1854
900R-A	740	2325
900R-B	740	2325

GENERAL NOTES (TYPE 2 FOOTING)

1. THE ROUND TYPE 2 FOOTING SHALL BE POURED IN DRILLED HOLES AGAINST UNDISTURBED MATERIAL. THE MAXIMUM DESIGN SOIL PRESSURE IS 0.15 MPa (BOTH HORIZONTALLY AND VERTICALLY). IF THE SOIL IS NOT CAPABLE OF A BEARING PRESSURE OF 0.15 MPa OR WILL NOT STAND VERTICALLY, THE ENGINEER SHALL REQUEST AN EXCAVATED HOLE AS DESCRIBED BELOW.
2. THE DRILLED HOLES FOR THE ROUND TYPE 2 FOOTING SHALL BE MADE WITH THE PROPER SIZE AUGER DRILLED TO THE PROPOSED BOTTOM OF FOOTING (2.4 m BELOW THE FINISHED GROUND SURFACE FOR 600R, 750R AND 900R-A, AND 2.7 m FOR 900R-B).
3. TRENCHES FOR THE CONDUITS SHALL BE HAND DUG WITHIN 1.5 m OF THE PROPOSED FOOTING SURFACE, DISTURBING AS LITTLE SOIL AS POSSIBLE IN PLACING OF THE CONDUITS (APPROXIMATELY 0.8 m MAXIMUM DOWN FROM THE EXISTING GROUND SURFACE). THE RESULTING TRENCHES SHALL BE BACKFILLED WITH STRUCTURAL FILL. THE HORIZONTAL LIMIT SHALL BE 1.5 m FROM THE FOOTING SURFACE.
4. THE ENGINEER SHALL REQUEST A BORING AT ANY LOCATION WHERE HE DEEMS THE SOILS TO BE QUESTIONABLE BEFORE PROCEEDING WITH THE DRILLING OPERATION. IF AFTER THE DRILLING OPERATION THE SOILS ARE NOT FOUND UNSUITABLE, THE ENGINEER SHALL REQUEST AN EXCAVATED HOLE AS DETERMINED BELOW OR THE USE OF A TYPE 1 SPREAD FOOTING.
5. WHERE LEDGE IS ENCOUNTERED THE DRILL SHALL PENETRATE THE LEDGE A MINIMUM OF 0.9 m AND IN ALL CASES A MINIMUM FOOTING LENGTH OF 1.5 m SHALL BE OBTAINED. MAXIMUM DRILL PENETRATION SHALL ALL BE 2.4 m FOR 600R, 750R AND 900R-A, AND 2.7 m FOR 900R-B.
6. ALL REINFORCING STEEL SHALL BE EITHER GRADE 300 OR GRADE 400
7. ALL REINFORCING STEEL SHALL BE A MINIMUM 75 mm CLEAR.

▲ EXCAVATED HOLES

1. AS AN ALTERNATIVE TO THE ABOVE DRILLED HOLES, THE ROUND TYPE 2 FOOTINGS MAY BE POURED IN EXCAVATED HOLES, USING THE PROPER FORMS WHICH MUST BE REMOVED, OR PRECAST AND PLACED IN THE EXCAVATED HOLES.
2. THE EXCAVATED HOLES SHALL BE AT LEAST 0.9 m CLEAR OF THE FOOTING SIDES AND 0.3 m DEEPER THAN THE FOOTING. CARE SHALL BE TAKEN TO AVOID OVER-EXCAVATING AROUND THE TOP OF THE FOOTING.
3. ANY LEDGE ENCOUNTERED SHALL BE REMOVED TO THE ABOVE LIMITS IF POSSIBLE OR THE ENGINEER SHALL REQUEST A REDESIGN.
4. THE TOTAL EXCAVATED HOLE FOR EACH FOOTING SHALL BE COMPLETELY BACKFILLED WITH STRUCTURAL FILL. NO PAYMENT SHALL BE MADE FOR STRUCTURAL FILL, EXCEPT AS PROVIDED IN NOTE NO. 1 OF THE GENERAL NOTES.

ALL DIMENSIONS SHOWN ARE IN MILLIMETERS OR METERS.
WHOLE NUMBERS INDICATE MILLIMETERS; DECIMAL
NUMBERS INDICATE METERS UNLESS OTHERWISE NOTED.

TRAFFIC SIGNAL STANDARD

*TRAFFIC SIGNAL MAST ARM
FOUNDATION - TYPE 2*

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